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FILE LAST UPDATED: 11 May 2006 (20060511/ED)

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=> s sterically(l)hindered(l)amine
         16257 STERICALLY
         36916 HINDERED
        266015 AMINE
L1         659 STERICALLY(L)HINDERED(L)AMINE

=> s organic(l)peroxide
        352483 ORGANIC
        201533 PEROXIDE
L2        1588 ORGANIC(L)PEROXIDE

=> s iodide or bormide or chloride
        172600 IODIDE
             4 BORMIDE
       1074880 CHLORIDE
L3     1201656 IODIDE OR BORMIDE OR CHLORIDE
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=> s l1 and l2
L4            0 L1 AND L2

=> s l2 and l3
L5          122 L2 AND L3

=> s l5 and l1
L6            0 L5 AND L1

=> s l5 and amine
         266015 AMINE
L7            5 L5 AND AMINE

=> d l7 1-5 bib abs

L7   ANSWER 1 OF 5  CAPLUS  COPYRIGHT 2006 ACS on STN
AN   2004:965634  CAPLUS
DN   142:113417
TI   Effective and selective iodofunctionalisation of organic
     molecules in water using the iodine-hydrogen peroxide tandem
AU   Jereb, Marjan; Zupan, Marko; Stavber, Stojan
CS   Department of Chemistry, Faculty of Chemistry and Chemical Technology,
     University of Ljubljana, Ljubljana, 1000, Slovenia
SO   Chemical Communications (Cambridge, United Kingdom) (2004), (22),
     2614-2615
     CODEN: CHCOFS; ISSN: 1359-7345
PB   Royal Society of Chemistry
DT   Journal
LA   English
OS   CASREACT 142:113417
AB   Efficient hydrogen peroxide enhanced iodofunctionalization of ketones,
     1,3-dicarbonyl compds. and activated aromatic mols. using elemental iodine in
     water is achieved, whereas alkynes were stereoselectively converted into
     (E)-1,2-diiodoalkenes.
RE.CNT  20    THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7   ANSWER 2 OF 5  CAPLUS  COPYRIGHT 2006 ACS on STN
AN   2001:242083  CAPLUS
DN   135:25078
TI   Deposition of Titania Thin Films by a Peroxide Route on
     Different Functionalized Organic Self-Assembled Monolayers
AU   Niesen, Thomas P.; Bill, Joachim; Aldinger, Fritz
CS   Max-Planck-Institut fuer Metallforschung and Institut fuer
     Nichtmetallische Anorganische Materialien, Universitaet Stuttgart
     Pulvermetallurgisches Laboratorium, Stuttgart, D-70569, Germany
SO   Chemistry of Materials (2001), 13(5), 1552-1559
     CODEN: CMATEX; ISSN: 0897-4756
PB   American Chemical Society
DT   Journal
LA   English
AB   Self-assembled monolayers (SAMs) on single-crystal Si wafers were used as
     substrates for the deposition of oxide thin films.  The organic surface is
     effective for promoting the growth of films from aqueous solns. at temps.
     <100°.  The formation of a Ti complex in the presence of H2O2 is
     used to stabilize an otherwise spontaneously precipitating aqueous Ti solution
 Uniform
     TiO2 films were formed at 80° on sulfonated SAMs, whereas hydroxyl
     and amine functionalities led to inhomogeneous coatings.  The
     films were characterized by a variety of techniques, including
     ellipsometry, RBS, AFM, SEM, and TEM, to determine the thickness, topog.,
     microstructure, and chemical composition of the films.  An electronegativity-pH
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diagram is used to explain how the composition of the deposition solution is reflected in the final thin film, both for the present films and for TiO2 films reported earlier in the literature. Finally, the current understanding of the film formation mechanism is discussed.

RE.CNT 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1966:4076 CAPLUS
DN 64:4076
OREF 64:702b-h
TI 4H-Benzo[4,5]cyclohepta[1,2-b]thiophene derivatives
PA Sandoz Ltd.
SO 9 pp.; Addn. to Neth. Appl. 6,408,529 (CA 63, 4264c)
DT Patent
LA Unavailable
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI NL 6414606		19650621	NL 1964-14606	19641215
PRAI CH		19631220		

GI For diagram(s), see printed CA Issue.

AB The title compds. which show neuroleptic and antidepressive properties were prepared through hydrolysis and dehydration of the product of a Grignard reaction of 4H-benzo[4,5]cyclohepta[1,2-b]thiophen-4-one (I) with a halo amine. Thus, a few drops EtBr were added to 2.2 g. iodine-activated Mg in 15 ml. absolute tetrahydrofuran (THF) and a solution of 10.8 g. 3-dimethylaminopropyl chloride in 20 ml. absolute THF was added at such a rate to keep the solution boiling, the refluxing was continued 1 hr. after the addition, a solution of 8.2 g. I in 30 ml. THF was then added over 15 min. at 20° and the whole refluxed 30 min. The cooled mixture was poured into 250 ml. saturated aqueous NH4Cl, 200 ml. CH2Cl2 added and the whole filtered over diatomaceous earth, the aqueous layer extracted with CH2Cl2, the combined exts. were washed with H2O, dried, and evaporated under 15 mm. to give a residue, which, recrystd. in EtOH-hexane gave 4-(3-dimethylaminopropyl)-4H-benzo[4,5]cyclohepta[1,2-b]thiophen-4-ol (II), m. 121-2°. A solution of 4 g. II in 250 ml. Ac2O was refluxed 6 hrs. after which 200 ml. solvent were evaporated and the residue poured in 1200 ml. H2O, the aqueous layer was filtered over diatomaceous earth, and extracted with Et2O after basification with 20% NaOH. The washed and dried extract was evaporated to give 4-(3-dimethylaminopropylidene)-4H-benzo[4,5]cyclohepta[1,2-b]thiophene (III, R = 3-dimethylaminopropylidene), b0.1 160-5°; malonate m. 142-3°. Thenyl chloride (133 g.) was stirred and heated at 150° and 175 g. PO3Et3 added dropwise and then stirred and heated at 160-70° for another 2 hrs. The mixture was distilled to give di-Et 2-thenylphosphonate (IV), b0.06 120-4°. Dry MeONa (30 g.) was added to a solution of 117 g. IV in 200 ml. dimethylformamide (DMF), the temperature was raised to 45-50°, a solution of 80 g. o-phthalaldehydic acid in 200 ml. was added to the cooled mixture at such a rate to keep the temperature below 35-40°, the stirring was continued 30-60 min. at room temperature and the whole was then poured on 1600 ml. H2O at 10-5°; a red oil separated but was dissolved again when the solution was basified with K2CO3, the brown solution was extracted with C6H6, the aqueous layer was acidified to pH 4 at 10-15° with HCl and cooled to give 2-[2-(2-thienyl)vinyl] benzoic acid (V), m. 133-5°. Na (7.5 g.) was amalgamated with 375 g. Hg and a solution of 20 g. V in 150 ml. 95% EtOH was added, the whole was shaken 30 min., the Hg was separated and washed with EtOH, 1600 ml. H2O was added to the combined EtOH solns., after filtration over diatomaceous earth, the solution was acidified with HCl and cooled to

5° to give 2-[2-(2-thienyl)ethyl]benzoic acid, (VI), m. 110-11°. VI (20 g.) were added over 30 min. at 125-30° to a mixture of 86 g. P2O5 and 54 ml. 84% H3PO4, the whole was stirred 2 hrs. at 125-30° and then poured on 1000 ml. H2O, filtered over diatomaceous earth, and extracted with CH2Cl2, the organic layer was washed with 2N Na2CO3, dried, and evaporated to give 9,10-dihydro-4H-benzo[4,5]cyclohepta[1,2-b]thiophen-4-one (VII), b0.05 125-40°, n24D 1.6559. A mixture of 32.1 g. VII, 26.7 g. N-bromosuccinimide, and 0.3 g. benzoyl peroxide in 250 ml. dry CCl4 was refluxed 4 hrs., the solvent was evaporated under 15 mm. after being cooled and filtered over diatomaceous earth, the residue was heated 2 hrs. in the presence of 200 ml. Et3N, the excess amine was evaporated, and the residue dissolved in 250 ml. CH2Cl2, which, after being washed with 2N HCl and H2O, was dried and evaporated to give I, m. 109-10°, b0.1 173-80°. I and 2-(1-methyl-2-piperidyl)ethyl chloride gave III (R = 2-(1-methyl-2-piperidyl)ethylidene); salicylate m. 167-8°.

L7 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1962:73336 CAPLUS
DN 56:73336
OREF 56:14178h-i,14179a-h
TI Organic sulfur compounds. V. Alkylammonium thiolate and peroxide salts; possible intermediates in amine -catalyzed oxidation of mercaptans by hydroperoxides
AU Oswald, Alexis A.; Noel, Fernand; Stephenson, Arthur J.
CS Imp. Oil Co., Sarnia, Can.
SO Journal of Organic Chemistry (1961), 26, 3969-74
CODEN: JOCEAH; ISSN: 0022-3263
DT Journal
LA Unavailable
AB cf. CA 56, 9994a. Aliphatic amines catalyzed the reaction of mercaptans and hydroperoxides to yield the corresponding disulfides, alcs., and H2O. The formation of alkylammonium salts of mercaptans and hydroperoxides was studied as a possible explanation of this catalysis. Alkylammonium peroxides formed a new class of hydroperoxide salts. They reacted with aromatic mercaptans at a very fast rate to yield alkylamines, plus the same products as the amine catalyzed mercaptan oxidation by hydroperoxide. 1,1,3,3-Tetramethylbutylammonium 2-naphthalenethiolate (I) (15 g.) in 290 ml. PhMe was treated with 2.2 g. tert-butyl hydroperoxide in 250 ml. PhMe, the mixture saturated with dry HCl, concentrated to 200 ml. in vacuo, and from the concentrate 1,1,3,3-tetramethylbutylammonium chloride (II) extracted by 2 100-ml. portions of 5% HCl. Filtration and recrystn. gave 4.4 g. bis-2-naphthyl disulfide, m. 139-40°. The combined aqueous HCl fractions yielded 5.9 g. II, m. 230-6°, which (treated with 2,4-dinitrobenzenesulfenyl chloride) gave 2,4-dinitrobenzenesulfenyl-N-(1,1,3,3-tetramethyl)butylamide, m. 103-4°. Analysis by partition chromatography of another sample of the original mixture showed that about 85% of the calculated Me3COH concentration was present. Karl Fischer H2O determination gave 105% of the theoretical amount of H2O. About 0.2 g. of the peroxide in 20 ml. C6H6 containing 0.25 mole/l. 2-naphthalenethiol was treated with about 0.1 ml. 1,1,3,3-tetramethylbutylamine (III), the mixture left 0.5 hr., and an aliquot titrated for thiol content with AgNO3 (using a potentiometer with an Ag-glass electrode pair). The reaction between the thiol and peroxide was usually completed in a few min. in the presence of III (as was indicated by the yellow coloration of the solution). Analyses of some hydroperoxide samples gave the values as shown: (method, % tert-Bu, phenylisopropyl, and tetrahydronaphthyl hydroperoxide given): mercaptan, 73, 65, 99; iodide, 74, 63, 101. The thiol (0.05 mole) was added dropwise to 50 ml. ethereal solution of 0.05 mole aliphatic amine and the precipitate filtered off, washed, and dried 0.5 hr. at 10 mm. I (13 g.) in 4 l. 3:1 C6H6-heptane oxygenated 6 hrs., then concentrated in

vacuo, HCl passed in, and the product crystallized gave 6.6 g. II, identified as 1,1,3,3-tetramethylbutylammonium picrate, m. 177-80°. The amine content of the aerated reaction mixture, determined by extraction with aqueous HCl, was 5.3 g. When a solution of 0.84 g. 2-naphthalenethiol in 100 ml.

3:1 C6H6-heptane was aerated in the absence of amine, the thiol concentration decreased to 87% of the original. A hydrocarbon hydroperoxide (0.05 mole) added to 2.8 g. diazabicyclo[2.2.2]octane in 50 ml. Et2O, the solution cooled, and the product removed, washed, and dried gave the triethylenediammonium alkyl peroxide. These peroxides could also be synthesized in hydrocarbon solvents or in the absence of any solvent. PhMe and ligroine were suitable. The following N-substituted ammonium alkyl peroxides were thus obtained (N compound, moles, hydroperoxide, moles, m.p. of the product, solvent, and % yield given): C16H33NH2, 2, HO2CMe2(CH2)2CMe2O2H (IV), 1, 50-6°, PhMe, 73; N(CH2CH2)3N, 1, Me3CO2H, 2, 74-6°, Et2O, 93; N(CH2CH2)3N, 1, PhCMe2O2H, 1, 87.5-8.5°, Et2O, 96; N(CH2CH2)3N, 1, α-naphthylhydroperoxide, 2, 47-8°, Et2O, 91; MeN(CH2CH2)2NMe, 1, IV, 1, semisolid, PhMe, 86; N(CH2CH2)3N, 1, IV, 1, 128-31°, Et2O, 82; HN(CH2CH2)2NH, 1, IV, 2, 74-5°, PhMe, 88; N(CH2CH2)3N, 1, Me3CO2H, 1, 52-5°, Et2O, 90; hexamethylenetetramine (V), 1, Me3CO2H, 2, 74° (decomposition), -, 52; V, 2, IV, 5, 88-90°, PhMe, 8; acridine, 2, IV, 1, 104-5°, Et2O, 92, phenazine, 1, IV, 1, 90° (decomposition), PhMe, 61. The following alkylammonium thiolates were prepared (salt of - amine, -thiol, m.p. of product, and % yield given): dodecyl (VI), 4-toluene, 89-90.5°, 84; VI, 2-naphthalene (VII), 94-5.5°, 83; VI, 4-chlorobenzene, 87-8.5°, 97; decyl (VIII), benzene (IX), 87.5-9.0°, 85; VIII, VII, 87-8.5°, 87; 2-hydroxyethyl, VII, 84-6°, 75; octyl (X), IX, 83-4°, 96; X, VII, 112-14°, 86; cyclohexyl (XI), IX, 122-5°, 84; XI, phenylmethane, 56-8°, 85; tris(2-hydroxyethyl), VII, 72-5°, 98; triethylenedi, IX, 96.5-8.5°, 88. Characteristic infrared absorption peaks of alkylammonium hydroperoxides were given in a table.

L7 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1917:15617 CAPLUS
DN 11:15617
OREF 11:3130b-e
TI Vulcanizing rubber
IN Hopkinson, E.
DT Patent
LA Unavailable
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI GB 108453		19161208	GB	

AB Natural or synthetic rubber is vulcanized, with or without the aid of S, by means of benzoyl peroxide, perbenzoic acid, and the like, ozonide of rubber, rubber chlorides, bromides, and hydrochlorides, or chlorides and bromides of synthetic rubbers, dimethylerythrene rubber bromide, cauprene chloride or bromide, trinitrobenzene, nitro-organic dye-stuffs, e. g., erythrosin, eosin, alkali blue, and cinnamylidenefluorene. The claims comprize also the employment of peroxides, peracids, a rubber compound adapted to produce vulcanization, and S-free organic dyes containing O. Rubber is vulcanized by means of mixts., such as S, trinitrobenzene, and PbO with or without naphthylamine; S, PbO, and piperidine piperidyldithiocarbamate or in place of the latter isoamylamine, hexamethylenetetramine, hexamethylenetetramine dithiocarbamate, or other aliphatic amine; and S, ZnO, erythrosin, and piperidine piperidylthiocarbamate. In some cases, a temperature above 100° is necessary for vulcanization, whereas in others it may be carried out below this temperature or even at normal temperature Rubber ozonide,

referred to above, may be prepared by treating layers of rubber from 0.5 to 1 mm. thick with a stream of dry air under the influence of rays from a Hg lamp. When the weight has increased by 0.2 to 1%, the product is milled between cold rollers and reheated for 1-15 min. at 100-120°. The halogen derivs. of rubber referred to may be prepared by the direct action of halogens on solns. of natural and synthetic rubbers.

=> log y

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